

REMARKS

A total of 16 claims remain in the present application. The foregoing amendments are presented in response to the Office Action mailed October 6, 2004, wherefore reconsideration of this application is requested.

By way of the above-noted amendments, claim 1 has been amended to more clearly define relationships between the elements of the present invention. Claims 2 and 9 have been cancelled to avoid redundancy with amended claim 1. Claims 3 and 10 have been amended to adjust their claim dependencies in view of the cancellation of claims 2 and 9, and claim 14 has been amended to correct an error in the claim dependency..

In preparing the above-noted amendments, careful attention was paid to ensure that no new subject matter has been introduced.

Referring now to the text of the Office Action:

- claims 1-4, 9-12 and 15 stand rejected under 35 U.S.C. § 102(e), as being unpatentable over the teaching of United States Patent No. 6,108,113 (Fee);
- claims 5 and 6 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 6,108,113 (Fee);
- claims 7, 8, 13 and 14 stand rejected under 35 U.S.C. § 103(a), as being unpatentable over the teaching of United States Patent No. 6,108,113 (Fee) in view of United States Patent No. 6,246,707 (Yin); and
- claims 16-18 are objected to as being dependent on a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As an initial matter, applicant appreciates the Examiner's indication of allowable subject matter in claims 16-18. The Examiners claim rejections of under 35 U.S.C. §102(e) and §103(a) are believed to be traversed by the above-noted claim amendments, and further in view of the following discussion.

Rejections under 35 U.S.C. §102(e)

It is believed that the Examiner's rejection of claims 1-4, 9-12 and 15 under 35 U.S.C. § 102(e) is traversed by way of the above noted claim amendments. In particular, claim 1 has been amended to define that the plurality interfaces comprises: at least one protection interface, a number of the protection interfaces being selected based on a probability of failure of a working interface. Fee does not teach or suggest this feature.

More particularly, referring to FIGs. 3A-3D, Fee shows an optical link between site-A and site-C, and traversing an intermediate site-B. Each of these sites are separated by optical fiber spans (Span A-B, and Span B-C). Each span includes working fibers 330, 332, 370, 372 (W1, W2) and protection fibers 334, 374 (P), each of which is terminated by at least one interface (Tx, Rx). As may be seen in FIGs. 3A-3D, the number of protection interfaces is driven by the number of protection fibers. Fee does not provide any guidance whatsoever concerning the number of protection fibers, or how that number is selected. Thus the person of ordinary skill in the art must necessarily resort to protection schemes known in the art.

As is well known in the art, the number of protection channels is often driven by the need to provide a predetermined level of redundancy in the network. Thus, for example, some network architectures (such as BLSR) call for a 1:1 protection scheme, so as to thereby guarantee a protection fiber for every working fiber in the network. In some network architectures (e.g. Mesh networks), different protection schemes are known, some of which select the number of protection channels based on the probability of failure of a working channel. As is well known, the probability of failure of an optical fiber is significantly higher (due to the risk of accidental fiber cuts) than that of an interface (which is housed within the controlled environment of a network node). Consequently, in protection schemes based on failure probabilities, the number of protection channels (or fibers) will be driven by the probability of failure of the optical fiber, rather than that of the interfaces. In all cases, since every protection channel is hosted by at least one respective protection interface, the number of protection interfaces is based on the number of protection channels. This is precisely the situation depicted in FIGs. 3A-3D of the Fee patent.

In contrast, the present invention provides that the number of protection interfaces is based on the probability of failure of a working interface. As described above, Fee does not teach or suggest this feature. Fee selects the number of protection interfaces based on the number of protection channels, and this is driven by either network redundancy requirements of the probability of a fiber failure. Accordingly, it is submitted that Fee fails to teach or suggest the combination of elements of amended claim 1, and thus amended claim 1 and its dependencies are not anticipated by United States Patent No. 6,108,113 (Fee).

Rejections under 35 U.S.C. §103(a)

As noted above, United States Patent No. 6,108,113 (Fee) fails to teach or suggest all of the elements of amended claim 1. None of the known prior art supplies the missing teaching. In particular, none of the known prior art teaches or suggests that a number of protection interfaces within a node is selected based on a probability of failure of a working interface.

Accordingly, it is respectfully submitted that the presently claimed invention is clearly distinguishable over the teaching of the cited references, taken alone or in any combination. Thus it is believed that the present application is in condition for allowance, and early action in that respect is courteously solicited.

If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 16-0820, Order No. 34172.

Respectfully submitted,

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